



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

December 10, 2002

MEMORANDUM TO: Melvyn N. Leach, Chief  
Special Projects and Inspection Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Thru: Joseph G. Giitter, Chief  
Special Projects Section  
Special Projects and Inspection Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Handwritten signature of Joseph G. Giitter in black ink.

FROM: Andrew Persinko, Sr. Nuclear Engineer  
Special Projects Section  
Special Projects and Inspection Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Handwritten signature of Andrew Persinko in black ink.

SUBJECT: NOVEMBER 21, 2002, MEETING SUMMARY: MEETING WITH DUKE  
COGEMA STONE & WEBSTER TO DISCUSS MIXED OXIDE FUEL  
FABRICATION FACILITY REVISED CONSTRUCTION  
AUTHORIZATION REPORT

On November 21, 2002, U.S. Nuclear Regulatory Commission (NRC) staff met with Duke Cogema Stone & Webster (DCS), the mixed oxide fuel fabrication facility (MFFF) applicant, to discuss the revised construction authorization request (CAR). A summary of the meeting is provided below. The meeting agenda, attendance list, and meeting handouts, are attached (Attachments 1, 2, and 3, respectively). A small portion of the meeting was closed to the public in order to discuss proprietary information.

Summary

At the outset of the meeting, it was announced that there would not be a management meeting as planned due to schedule conflicts affecting DCS management.

DCS' presentation was based on the slides provided as Attachment 3. DCS stated at the meeting that it will be providing a series of tables that identify the extent to which responses to NRC's requests for information or clarification [e.g., Request for Additional Information (RAI), open items in the draft Safety Evaluation Report (DSER)], have been incorporated into the revised CAR.

The revised CAR incorporates design changes to accommodate alternate plutonium feedstock (e.g., addition of a pulsed column, additional laboratory characterization information, facility layout), the deletion of the silver recovery system as a result of the Savannah River Site's ability to accept silver, and the deletion of one electrolyzer in the dissolution unit. Design basis changes include changes to the 3013 outer canister opening device, concentration controls, glovebox fire protection features, and the process safety instrumentation and control system. New principal structures, systems, and components (PSSCs) that have changed include double walled pipe, sintering furnace, sintering furnace pressure controls, and laboratory material controls. DCS also stated that the MFFF process cell ventilation system passive boundary, an existing PSSC with high efficiency particulate air (HEPA) filters, would now be relied upon to reduce environmental risks from accidents in process cells. DCS also notified staff that they will submit several page changes for the revised CAR to correct errors that they noticed after submitting the revised CAR in October, 2002. DCS requested NRC clarification for some open items (FLS-2, AP-11, and AP-12). DCS proposed having a series of technical exchanges beginning in December 2002 regarding open items and NRC questions. NRC committed to sending DCS a letter each month that summarizes the status of the staff's open items.

In response to questions from NRC staff, DCS: 1) committed to include elements of the C4 confinement system in the safety strategy for glovebox fires; 2) will compare Table 5.6-1 to the text; 3) will clarify whether the instrument air system is a PSSC after comparing the discussions in sections 11.9.1.10 and 11.9.5; 4) stated that an electrical PSSC has not been designed to be seismically qualified if there are no post-seismic electrical load safety requirements. NRC staff asked: 1) if there is a standard that DCS intends to apply to the double walled pipe design and to sampling systems; 2) for clarification regarding the designation of maintenance as a PSSC, since according to 10 CFR Part 70, maintenance is a management measure. It was clarified that the worker action is really the PSSC.

Docket: 70-3098

Attachments: 1. Meeting Agenda  
2. Attendance List  
3. Meeting Handouts

cc:

P. Hastings, DCS  
J. Johnson, DOE  
H. Porter, SCDHEC  
J. Conway, DNFSB  
L. Zeller, BREDL  
G. Carroll, GANE

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DISTRIBUTION:

Docket: 70-3098

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<b>OFC</b>	SPB*	E	SPB*	2	SPB			
<b>NAME</b>	DPersinko		LGross		JGiitter			
<b>DATE</b>	12/09/02		12/09/02		12/10/02			

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**MEETING AGENDA  
MOX FUEL FABRICATION FACILITY  
November 21, 2002**

10:00 AM	Introduction
10:15 AM	Presentation by Duke Cogema Stone & Webster concerning the contents of the revised Construction Authorization Request
12:00 NOON	Lunch
1:00 PM	Presentation by Duke Cogema Stone & Webster concerning the contents of the revised Construction Authorization Request  NRC staff questions/discussion
2:45 PM	Summary / Actions
3:00 PM	NRC-DCS Management Meeting
4:30	Summary / Actions

**ATTENDEES AT THE MEETING ON NOVEMBER 21, 2002**

<b><u>NAME</u></b>	<b><u>AFFILIATION</u></b>
Andrew Persinko	Nuclear Regulatory Commission (NRC)
Joseph Giitter	NRC
Fred Burrows	NRC
Wilkins Smith	NRC
Alex Murray	NRC
David Brown	NRC
Joel Kramer	NRC
Rex Wescott	NRC
Margaret Chatterton	NRC
Sharon Steele	NRC
Tim Harris	NRC
Billy Gleaves	NRC
Linda Gross	NRC
Patrick Castleman	NRC
William Gloersen	NRC
Christine Noelke	NRC
Paul Loeser	NRC
Norma Garcia	NRC
Bill Troskoski	NRC
Julia McAnallen	NRC
Peter Hastings	Duke Cogema Stone & Webster (DCS)
Gary Kaplan	DCS
Ken Ashe	DCS
Bill Hennessy	DCS
Darrell Gardner	DCS
Jean-Francois Weiss	DCS
Jamie Johnson	Department of Energy (DOE)
John Connelly	DOE
Joseph Drago	DOE
Don Williams	Oak Ridge National Laboratory (ORNL)
David Alberstein	Los Alamos National Laboratory (LANL)
Faris Badwan	LANL
Edward Lyman	Nuclear Control Institute (NCI)
Dan Horner	McGraw-Hill
Geoff Kaiser	SAIC



DUKE COGEMA  
STONE & WEBSTER

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# NRC Staff Briefing on the Construction Authorization Request Revision

Duke Cogema Stone & Webster  
21 November 2002

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Attachment 3



DUKE COGEMA  
STONE & WEBSTER

# Agenda

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- Introduction
- Road Map
- Design Changes
- Design Basis
- October 30, 2002 letter from NRC
- Errata
- Follow Up Meetings



# Introduction

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- CAR Update includes
    - Incorporation of responses to Request for Additional Information (RAIs)
    - Incorporation of responses to Clarifications
    - Additional information added to address Open Items from the Draft Safety Evaluation Report
    - Incorporation of changes as a result of “Alternate Feedstock”
    - Evolution of the Design, if significant to the Safety Basis
-





# Road Map

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- The RAI/Clarification road maps are divided into three sections:
    - Responses that are incorporated in the CAR Revision
    - Responses that are valid but not incorporated in the CAR Revision
    - Responses that are no longer valid
  - Each section provides
    - A cross reference to the RAI number or a Clarification identifier
    - A brief description of the question/clarification,
    - The location in the CAR where text was modified if required



# Road Map (continued)

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- The Open Item road map is divided into three sections:
    - Items incorporated into the CAR
    - Items requiring clarification or no change to the CAR
    - Remaining Open Items
  - Each section:
    - Identifies the open item (# and text)
    - Provides the location where text in the CAR was modified as applicable
    - Provides clarifying notes where applicable
-



# Road Map (continued)

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- Open Items
    - HEPA Filter
    - Solvent flashpoint, flammable gases
    - HAN/Hydrazine
    - Design Cost information
    - Pu Experience
    - Design Basis USLs
  - Open Item Identifiers
    - FS-1 & VS-1
    - AP-08, AP-09, AP-10, CS-09
    - CS-02, CS-03
    - FQ-01
    - NCS-01
    - NCS-04
-



# Design Changes

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- Alternate Feedstock
- Deletion of Silver Recovery System
- Deletion of one electrolyzer in Dissolution Unit (KDB)



# Design Basis Changes

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- PSSCs that have been deleted or replaced
    - 3013 Outer Canister Opening Device
      - Operation deleted
    - Concentration Controls
      - Replaced by Chemical Safety Controls (CAR Table 5.6-1)
    - Glovebox Fire Protection Features
      - Replaced by Combustible Loading
-



# Design Basis Changes (continued)

DUKE COGEMA  
STONE & WEBSTER

- 
- PSSCs that have been deleted or replaced
    - Process Safety I&C System
    - Replaced by Process Safety Control Subsystem and Emergency Control System
    - Training and Procedures (Facility worker actions)
    - Replaced by Facility Worker Action and Facility Worker Controls PSSCs



# Design Basis Changes (continued)

DUKE COGEMA  
STONE & WEBSTER

- 
- New PSSCs
    - Double Walled Pipe
    - Facility Worker Action
    - Facility Worker Controls
    - Hazardous Material Delivery Controls
    - Laboratory Material Controls
    - Seismic Monitoring System and Associated Seismic Isolation Valves
    - Sintering Furnace
    - Sintering Furnace Pressure Controls
  - CAR Section
    - 11.8.7
    - 5.6.2.6
    - 5.6.2.9
    - 5.6.2.8
    - 5.6.2.7
    - 11.6.7 & 11.8.7
    - 11.4.11
    - 11.4.11
-



# 30 October Letter

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- DCS is still evaluating the letter
- DCS believes the CAR provides additional information and some items may now be closed.
- DCS requests that NRC provide guidance on which of the items remain open, after your review of the CAR.





# Errata

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- Section 10.1.1,- - 2<sup>nd</sup> paragraph provided a Pu concentration of 7.25E-16 Ci/ml and it should have been 7.25E-16  $\mu$ Ci/cc
  
- Consequence Analyses



# Errata (continued)

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- Section 11.4.11.8, - - 2<sup>nd</sup> bullet refers you to sections 8.5 and 8.7, it should only be 8.5
  - Table 5A-6, delete “heavy” from event description (workshop RD-9)
  - Table 5A-7, delete “heavy” from event description (workshop AS-8)
-



# Follow Up Meetings

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- Propose series of Technical Exchanges to facilitate understanding of NRC questions
- December 2002
  - Technical exchange to discuss outstanding issues (Charlotte or DC)
  - Request NRC and DCS management attend for agreement on path forward



# Follow Up Meetings (continued)

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- January 2003
  - Technical exchange to discuss outstanding issues (Charlotte or DC)
  - Request NRC and DCS management attend for agreement on path forward
  
- February 2003
  - If needed